8.5.2 CDMA DL Power Control Methodology (VOICE ONLY)

Figure 193 presents the dependency between the condition of a user in the network (the so called geometry), mobile speed and soft handover state of the UE that are needed to map a particular link quality to the channel power requirement.

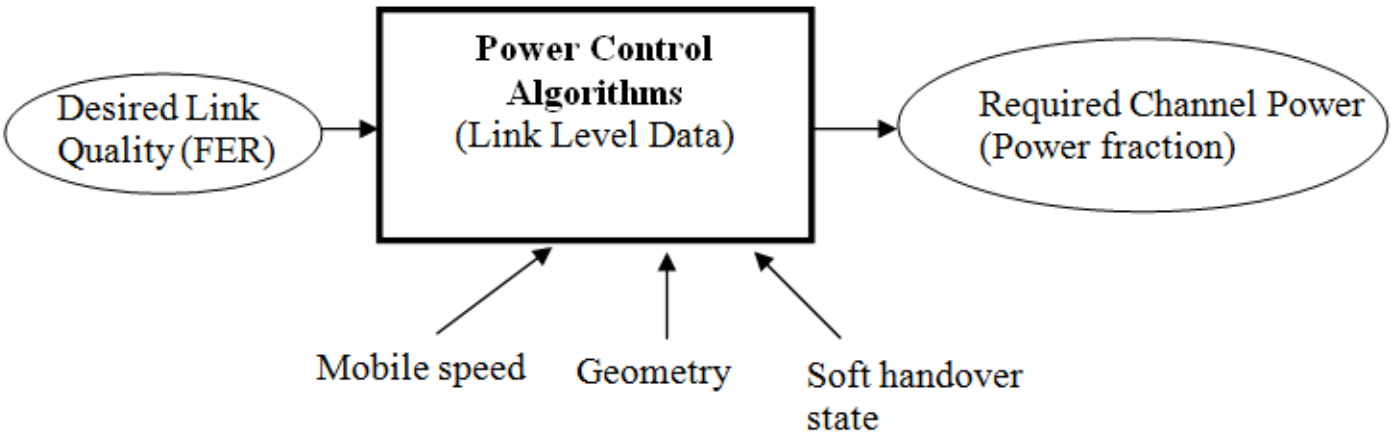

Figure 193: Power Control Module (high level)

All these factors determine the appropriate mapping of a particular link quality to the channel power requirement. For example, stationary users may require less power than moving users to attain the same link quality. Similarly, users connected to several BS's at the same time (soft handover) may require less power than users connected to a single BS to achieve the same link quality. Furthermore, users in favorable locations (high geometry) may again require less power than users that are in unfavorable locations (low geometry). Hence, link level data includes different mappings (look up tables) between link quality and required power for different mobile speeds, geometries and soft handover states. Furthermore, in order to remove the dependency on the total BS power (may vary from system to system), the power requirements are reported as normalized power fractions (fraction of the total BS power).

Consequently, the link level data is used in modelling power control in a variety of conditions such as different mobile speeds, geometrical user distributions, soft handover characteristics and amplifier output power ratings. In CDMA Downlink, the link level is a function of Ec/Ior.

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